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TREATMENT OF DOUGLAS-FIR TUSSOCK MOTH IN URBAN COEUR D'ALENE WITH SEVIN SPRAYABLE AND SEVIMOL INSECTICIDES

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INTRODUCTION

The Douglas-fir tussock moth has been a problem in the western United States for several decades. In northern Idaho it has been the subject of three major control projects; in 1947, 1965 and 1975. In the 1965 and 1974 outbreaks it was a problem in many communities as well as in the commercial forest areas. In the 1974 outbreak, tussock moths in Coeur d'Alene, Idaho, caused visable defoliation of ornamentals in 1971, two years prior to the occurrence in the forests. In addition to defoliating and killing many ornamental fir and spruce trees, they crawled all over and into houses causing great concern on the part of many home owners. Many tried to control the caterpillars, but due to lack of information on proper pesticide, method of application and timing they were generally unsuccessful.

A summer 1974 survey indicated a minimum of 95 trees that could have high populations in 1975. In an effort to assist these home owners, a Coeur d'Alene City-sponsored Urban Forestry Committee, with technical assistance from the County Extension Office and the Idaho Department of Lands, served to coordinate the dissemination of factual information and made contacts with a chemical company to provide a pesticide and with a commercially licensed pest control operator to apply it.

Materials and Methods

The Idaho Department of Lands conducted a 1975 spring larval survey to look for tussock moth caterpillars and determine the proper timing for an early instar control effort. Union Carbide Corporation provided two formulations of carbaryl for use in the control operation, Sevimol (4 lb. carbaryl in 1 gallon molasses) and Sevin sprayable (80 % wettable powder). These were mixed at the rates of 1 quart/100 gallons of water and 1¼ lb./100 gallons of water respectively. Short term registration for this use was obtained through the Idaho Department of Agriculture.

Based on the results of the spring survey, recommendations for treatment were generally made when tussock moth caterpillars could easily be found in the branches of the lower crown. No attempts were made to cut branches and make a population density measurement. The decision to treat or not was left up to the individual home owners. At each residence one of the above formulations was sprayed, to the drip stage, on all trees needing treatment at that particular site. The two formulations were to be used on approximately an equal number of trees. Large trees received adequate treatment into their tops by using a hydraulic lifting device. A fall, post spray egg mass survey was made of the sprayed trees to determine effectiveness of the treatment.

Results

Nearly 200 trees at 72 locations were examined for tussock moth in the spring survey. Of these, 28 trees at 14 locations had Douglas-fir tussock

moth in them. Eleven home owners decided to have their trees sprayed, two of these did not participate in the program and had their trees sprayed by a different pest control operator. The following table summarizes the results of the carbaryl treatment.

Host Species Treated	Sevimole		Sevin Sprayable	
	No. Trees Sprayed	No. DFTM Egg Masses In Post Spray Sample	No. Trees Sprayed	No. DFTM Egg Masses In Post Spray Sample
Douglas-fir (Pseudotsuge taxifolia)	0	-	9	0
True Firs (Abies spp.)	4	0	2	0
Spruce (Picea spp.)	1	0	1	0
TOTALS:	5	0	12	0

Discussion

Defoliation of ornamental conifers by the Douglas-fir tussock moth has recently caused concern in several communities of the northwestern United States. In the 1972-74 outbreaks in Oregon, Washington and Idaho, many home owners had their trees top-killed or killed outright by repeated defolication. Most control efforts were unsuccessful due to lack of knowledge of proper pesticide and timing and lack of equipment capable of covering into the tops of large trees.

The formation of the Coeur d'Alene Urban Forestry Committee with professional assistance provided a valuable source of information and assistance for the public. Similar committees in other towns could do much to preserve urban forests from devastation by ravaging insects, disease or other maladies.

The need for an environmentally safe, yet effective pesticide is especially obvious when the intended use is in densely populated areas. In this instance, carbaryl filled this need, being registered for use in home and garden applications and being an effective killer of the Douglas-fir tussock moth!